Atty Dkt. No.: 071469-0303535 Client Ref. No.: RAJ-001

IN THE CLAIMS:

This listing of claims replaces all prior versions, and listings, of the claims in the application:

1.-16. (Canceled)

17. (Currently Amended) A method of forming a semiconductor microstructure, the method comprising:

positioning a substrate containing an initial dielectric layer in a process chamber, the initial dielectric layer being at least one selected from a group consisting of a first oxide layer and a high-k layer;

flowing a process gas comprising an oxygen-containing gas in the process chamber; and

forming an a second oxide layer with high thickness uniformity, the second oxide layer being formed between the initial dielectric layer and the substrate in a self-limiting oxidation process, wherein the partial pressure of the oxygen-containing gas in the process chamber is less than about 50 Torr.

- 18. (Canceled)
- 19. (Currently Amended) The method according to claim 18, wherein the oxide layer at least one of the first and second oxide layers comprises SiO₂.
- 20.-21. (Canceled)
- 22. (Currently Amended) The method according to claim 17, wherein the high-k layer comprises at least one of HfO₂, ZrO₂, Ta₂O₅, TiO₂, Al₂O₃, and HfSiO.
- 23. (Original) The method according to claim 17, wherein the process chamber pressure is less than about 40 Torr.

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- 24. (Original) The method according to claim 17, wherein the oxygen-containing gas comprises O_2 .
- 25. (Original) The method according to claim 24, wherein the process gas further comprises N_2 .
- 26. (Original) The method according to claim 17, wherein the process gas further comprises an inert gas.
- 27. (Original) The method according to claim 26, wherein the inert gas comprises at least one of Ar, He, Ne, Kr, Xe, and N_2 .
- 28. (Original) The method according to claim 17, wherein the substrate temperature is between about 500° C and about 1000° C.
- 29. (Original) The method according to claim 17, wherein the substrate temperature is about 700°C.
- 30. (Original) The method according to claim 17, wherein the process chamber pressure is less than atmospheric pressure.
- 31. (Original) The method according to claim 17, wherein the process chamber pressure is less than about 50 Torr.
- 32. 54. (Canceled)